(2) That a preliminary correction of +3.5 per cent may be applied to the readings of the Ångström pyrheliometers.

(3) That the central station will be charged with (1) the construction of a standard water flow pyrheliometer and (2) a comparison between the water flow and the Ångström compensation instrument.

[This proposal that the Central European station construct a standard water-flow pyrheliometer for the purpose of obtaining comparisons with the Ångström compensation pyrheliometer will be well received by American meteorologists. It is only necessary to call attention to a paper entitled "Some characteristics of the Marvin pyrheliometer" by Paul D. Foote, Scientific Papers of the Bureau of Standards No. 323, and to an abstract by the undersigned in the REVIEW for November, 1918, 46:499, to show that European investigators of solar radiation are now falling into line with their American colleagues.

It is interesting to note that the Marvin pyrheliometer when independently standardized gives radiation measurements 2 per cent lower than the Standard water-flow pyrheliometer constructed by Abbot. This is quite comparable with the difference between the Ångström and the standard water-flow pyrheliometers as given above. As indicated by both Ångström and Foote, this difference is within the probable error of calibration of the Ångström and Marvin instruments. However, the construction of a standard water-flow pyrheliometer by the central actinometric station for Europe may be expected to yield valuable results.—*H. H. K.*]

Regarding the central station it is important that it be closely connected with the construction and furnishing of the pyrheliometers. At present (since the failure of the Rose Company at Upsala) there seems to be a possibility of constructing and furnishing compensation pyrheliometers at Stockholm under scientific control. The chief of the physical institute at Upsala is willing to exert control over the pyrheliometers, and a special assistant is engaged to make the comparisons. We therefore propose that no alteration be made at present in the decision at the meeting at Mendon, according to which Upsala was selected as central station.

It seems, however, desirable that a second central station be selected for southern Europe, under the condition that a close collaboration between the stations can be relied upon. Especially a regular comparison of their standards seems necessary.

APPENDIX III.

PRELIMINARY REPORT OF DOCTOR GORCZYŃSKI ON THE RESULTS OBTAINED DURING HIS VOYAGE IN THE EQUATORIAL REGIONS, MARCH TO AUGUST, 1923.

Doctor Gorczyński, who had just returned from a voyage to the Far East, undertaken especially for actinometric studies, reported briefly on the work accomplished during his six months' sojourn aboard ship and in equatorial countries. Measurements of the intensity of solar radiation, not only total but partial (by means of colored glass), were made from March to August, 1923, by means of two bimetallic actinometers (Michelson type) compared before and after the journey, and also during the month of June, 1923, at the Observatory of Batavia (with an Abbot instrument). During the six months, he made a large number (about 50,000) of measurements from sunrise to sunset aboard the Danish motor ships *Jutlandia* and *Falstria*, and also in Siam and at Batavia and Pangerango (Java), the last named at an altitude of more than 3 kilometers.

While Doctor Gorczyński has not had an opportunity up to this time to reduce these measurements, he mentions the most interesting results obtained during the voyage:

(1) The measurements of partial intensity, made with colored glass, and especially with the highly monochromatic red Jena glass, show that the percentage of red radiation is less in the equatorial zone than in Europe: and, consequently, conditions are inverse in other parts of the spectrum. For example, in Siam and the Indian Ocean, one frequently finds that the red radiation comprises about 43 per cent, while in Europe it is generally about 50 per cent. This large difference depends only slightly on the solar altitude, which is generally less at noon in the temperate zone than in the Tropics.

(2) There was determined by continuous measurements between sunrise and sunset the diurnal variation of the total and partial intensity in the different geographic latitudes from 50° N. to 6° S. It was especially interesting to follow the diurnal variation of the percentage of red radiation which increases systematically, and considerably, with the decrease of solar altitude.

(3) The character of monthly variations of the intensity of solar radiation in the equatorial countries seems to be quite different from that which one observes in Europe. While in Europe it is especially the water vapor that influences the monthly variations, in the warm countries these variations depend principally on atmospheric opacity, which is quite different during the dry and wet seasons.

In spite of these results, Doctor Gorczyński considers that this voyage of study ought to be followed by others in different parts of the world, and especially in the desert countries (mountainous parts of the Sahara), and also by a prolonged sojourn on an island in the middle of the ocean (Tahiti for example). Similarly, it is necessary to establish for comparison a continuous series in Europe, and especially in the South of France, where atmospheric conditions are particularly favorable.

TABLE 1.—*Progressive diminution of the partial intensity in the "red part" of the solar spectrum in relation to the total intensity as determined by actinometric measurements made during the Polish expedition to Siam in 1923.*

(A) ACTINOMETRIC MEASUREMENTS ON BOARD THE MOTOR SHIP "JUTLANDIA" OF THE DANISH EAST-ASIATIC CO.

1923	At noon.			11-13 hours.			Remarks. Ship's position.
	Zenith distance.	Air mass.	Air temperature, C.	Max Q (gr. cal., cm² min.).	Per cent of the intensity in the "red part." Observ.	Per cent of the intensity in the "red part." Reduced.	
Mar. 8...	43	1.38	16	1.39	50	64	Atlantic Ocean, 38° N., 10° W.
Mar. 13..	39	1.28	15	1.39	50	64	Mediterranean Sea, 36° N., 5° E.
Mar. 18..	30	1.15	21	1.22	48	61	Suez Canal, 29° N., 33° E.
Mar. 20..	22	1.09	28	1.24	47	60	Red Sea, 22° N., 38° E.
Mar. 23..	12	1.03	27	1.36	45	58	Gulf of Aden, 12° N., 44° E.
Mar. 28..	6	1.01	31	1.36	45	58	Indian Ocean, 10° N., 65° E.
Apr. 10..	5	1.01	29	1.28	45	58	Gulf of Siam, Pacific, 3° N., 101° E.
(B) ACTINOMETRIC MEASUREMENTS IN SIAM.							
May 5...	2	1.00	32	1.15	45	58	City of Bangkok.
May 10..	4	1.01	32	1.11	45	58	Latitude, 13° 44′ N.
May 15...	5	1.01	33	1.25	45	58	Longitude, 100° 30′ E.
May 21...	6	1.01	33	1.22	44	56	Height, 10 m.

TABLE 1.—*Progressive diminution of the partial intensity in the "red part" of the solar spectrum in relation to the total intensity as determined by actinometric measurements made during the Polish expedition to Siam in 1923*—Continued.

(C) MOUNT PANGERANGO, JAVA. HEIGHT, 3,023 METERS.

[ϕ=6° 45′ S. λ=106° 58′ E. of Gr.]

1923	At noon.			11–13 hours.			Remark,.
	Zenith distance.	Air mass.	Air temperature, C.	Max Q (pr.cal., cm.^{4} min.).	Per cent of the intensity in the "red part." Observ.	Reduced.	
June 15..	30	0.81	16	*1.6	*42	54	*In consequence of the clouds the actinometric measurements were made during the morning hours only; the values, reduced at noon, are only provisional.
June 16..	30	0.81	11	*1.6	*43	55	
June 17..	30	0.81	13	*1.6	*43	55	
(D) ON BOARD THE MOTOR SHIP "FALSTRIA," DANISH EAST-ASIATIC CO.							
July 23..	16	1.04	29	1.20	45	58	Indian Ocean, 4° N., 61° E.
July 28..	8	1.02	31	1.12	45	58	Gulf of Aden, 11° N., 47° E.
July 31..	0	1.00	32	1.17	45	58	Red Sea, 18° N., 40° E.
Aug. 1...	3	1.01	32	1.17	47	60	Red Sea, 22° N., 38° E.
Aug. 5..	15	1.04	27	1.28	47	60	Mediterranean Sea, 32° N., 32° E.
Aug. 7...	18	1.05	29	1.38	48	61	Mediterranean Sea, 34° N., 24° E.
Aug. 9...	22	1.08	28	1.28	49	63	Mediterranean Sea, 38° N., 16° E.
(E) CONTINENT OF EUROPE.							
Aug. 13..	29	1.14	34	1.30	50	64	Montpellier, 43° 6′ N. Agric. Met. St.
Aug. 21..	36	1.23	29	1.17	51	65	Paris, 48° 8′ N. Observ. Parc St. Maure.
Sept. 13.	48	1.49	24	†0.88	51	65	†Sun veiled. Warsaw 52° 2′ N., 21° 0′ E. Gr. Polish Meteorological Institute.
Sept. 17.	50	1.54	22	1.17	52	67	

NOTE.—The values of Max Q are provisional. The percentages of the partial intensity in the "red part" in relation to the total intensity of the solar radiation were obtained with a red-glass filter (Schott F 4512; thickness, 4 mm.). The transmissibility of the red glass (1 mm.) is: 94 per cent for λ=0,644 μ (5 per cent for λ=0.578μ). The "reduced" values are greater in proportion $1/(0.94)^4$.

[Readers of the REVIEW will be interested to know that in a recent letter Doctor Gorczyński states that he has definitely decided upon a journey to America, although the date of the journey is still uncertain.

His program of work includes the following:

(*a*) Critical comparisons between the Abbot pyrheliometer, the Ångström pyrheliometer, and the Michelson actinometer.

(*b*) A study of the bolometric work of the Astrophysical Observatory of the Smithsonian Institution.

(*c*) In cooperation with the United States Weather Bureau, an attempt will be made to obtain a series of measurements of the total and partial intensities of solar radiation in North, Central, and South America, in order to complete the series obtained on his recent expedition to southern Asia. Special attention will be given to the question of the progressive diminution in intensity of the red part, and also other parts, of the solar spectrum, between the temperate zones and the equator, the diurnal and monthly variations in these intensities, and the relation between the meteorological elements and solar radiation.

Doctor Gorczyński can be assured of a hearty welcome and cordial cooperation when he arrives in the United States.—*H. H. K.*]

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WARM FALL WEATHER IN ALASKA AND RUSSIA, 1923.

The daily weather reports from Alaska received by cable and radio by the United States Weather Bureau show the prevalence of relatively high temperature for the season and this is confirmed by press dispatches that appear from time to time. The latest of these, reproduced below, shows, however, that at Dawson, at least the season is only about a week later than in 1922.

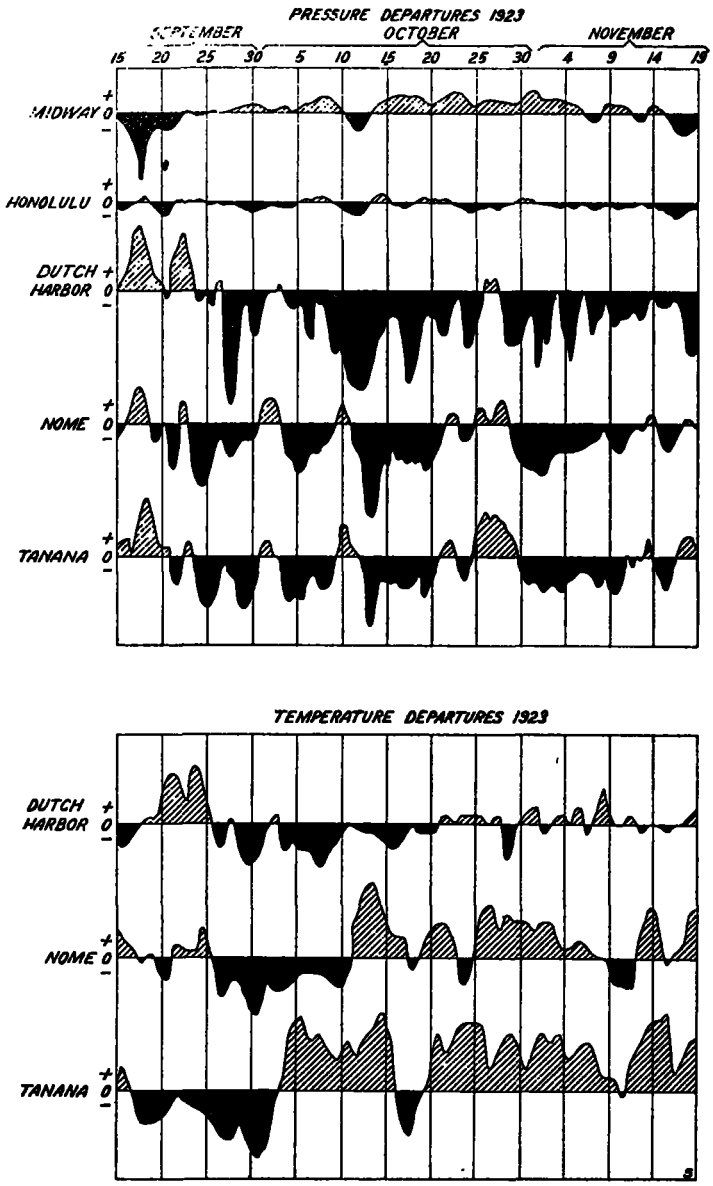

FIG. 1.—Pressure and temperature departures for Alaskan stations, autumn, 1923.

YUKON FREEZES LATE.[1]

DAWSON, Y. T., *November 24*.—At noon to-day the Yukon River was frozen over here for the first time this winter, the latest date in the memory of the oldest "sourdoughs" residing in the Territory.

Three weather records have been broken this year. Last year the river was covered with ice on November 16. The season of navigation on the river opened May 10, 1923, two weeks earlier than any on record here. From May to November 24, the mean temperature was 57 degrees Fahrenheit.

As illustrating the very close connection between pressure and temperature in Alaska the graph presented in Figure 1 has been prepared. The upper part of

[1] *Washington* (D. C.) *Star*, Nov. 26, 1923.